

ARTICLE II.

THE ANTIPYRETIC TREATMENT OF PNEUMONIA. By SAMUEL E. JAMES, M.D., of Frankfort, Ky.

THE treatment of febrile affections by agents capable of reducing the temperature of the body has of late attracted considerable attention, and, in order to test their efficiency, the writer has subjected quite a number of patients suffering with pneumonia to their influence; chief among these agents are the cold bath, quinia, and salicylic acid; and the results recorded in this paper will deal with observations made on patients on whom the effect of these remedies was carefully watched. The patients were inmates of the Kentucky Penitentiary, which contains an average of about 850 convicts, and for these there are but 648 cells, containing each about 170 cubic feet of air, which will at once be recognized as quite insufficient for one man; yet, from the necessities of the case, a number of these small cells have to accommodate two men. Each man is allowed two buckets, one for water and the other for his discharges during the night; and the atmosphere, already poisoned with carbonic acid gas and animal matter exhaled by the two men, is still further charged with the stench arising from the buckets containing the fecal matter.

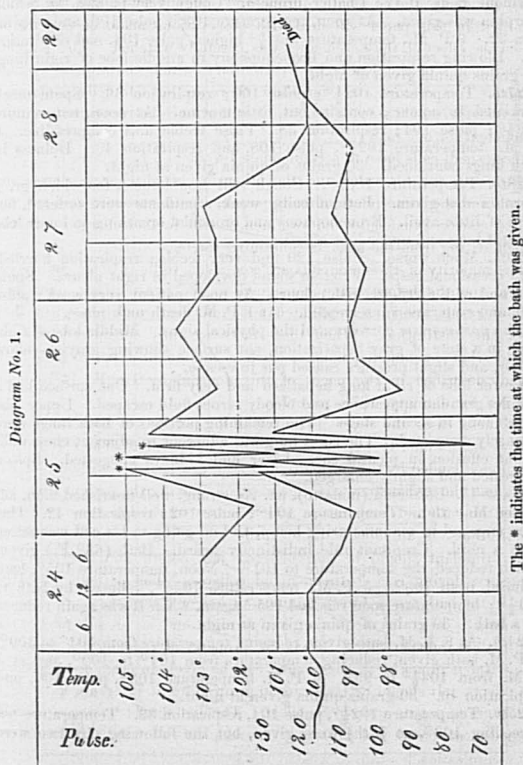
The majority of these convicts are compelled to lie in some county jail several months before being consigned to the penitentiary, and, as a natural result, are in a debilitated and enfeebled condition when they enter this institution. When these facts are duly considered, it is no wonder that pneumonia assumes such a malignant type, as has been already described in the pages of this Journal by Dr. W. B. Rodman (see No. for January, 1876, page 76).

In these cases the fever is the most formidable enemy to meet, and cold we have found to be our most efficacious remedy. The cold bath is very much lauded by the Germans, and their praise is not without foundation; but the exhaustion consequent upon moving the patient from the bed to the bath and back again, which is very marked in those of feeble constitutions, is an objection not easily set aside. A tablespoonful of some stimulant should be administered just before and after, and, if necessary, during each bath, to avoid collapse. The patient should be kept in the bath ten or fifteen minutes, or longer if necessary.

Quinia is next in the list of antipyretics, and as an adjuvant to the cold-bath is indispensable. It has the property of reducing the temperature without injury to the heart, and can be given in large doses without evil effects. It should be given in 30 grain doses at intervals of twenty-four hours to get its antipyretic effect. The diet should be liberal: finely scraped meat, bread and butter, eggs, and plenty of milk. Insomnia or any complication tending to weaken the heart should be promptly treated.

The following cases will show the value of the cold bath as an antipyretic. The bath was administered only when the temperature reached or exceeded $103\frac{1}{2}^{\circ}$; and the quinia was only given at night to influence the temperature when the baths were not administered.

CASE I. Grayson (coloured), æt. 35, admitted May 24. Had pain in right side and constant desire to cough. Previous night had a chill, followed by fever. On admission, pulse 116, full and moderately strong; temperature 103°, and respiration 50, with dyspnœa; tongue coated, and distressing nausea. Temperature remained 103° the rest of that day, while the pulse decreased 8 beats.



25th. Crepitant râle over middle lobe of right lung; temperature $101\frac{1}{2}^{\circ}$; pulse 104; respiration 36. Seems to be improving, but at noon temperature was 105° , pulse 130, and respiration 60. Bath 65° F. given, reducing temperature from 105° to $101\frac{1}{2}^{\circ}$. The bath was repeated at 2 P. M., reducing temperature from 105° to $100\frac{1}{2}^{\circ}$; and again at 5 P. M. temperature reduced by bath from $104\frac{1}{2}^{\circ}$ to 99° ; and at night 30 grs. quinia given. The following diagram illustrates the effect of the baths on the pulse and temperature.

26th. Temperature $102\frac{1}{2}^{\circ}$, pulse 92, and respiration 28. Dulness over middle and lower lobes of right lung. Crepitant râle in lower lobe of right and upper lobe of left lung. Sputa rusty and tenacious, containing fibrinous casts of the smaller bronchi. Cough very painful, for which morphia was given. At noon, temperature 103° , pulse 100, and respiration 32. 6 P. M., temperature was $\frac{1}{2}^{\circ}$ higher, pulse 104, and respiration 36. Blowing respiration and bronchophony in middle lobe of right lung. 30 grains quinia given at night.

27th. Temperature $102\frac{1}{2}^{\circ}$; pulse 100; respiration 36. Sputa much darkened in colour; contains but little mucine. At noon, temperature $102\frac{1}{2}^{\circ}$; pulse 104; respiration 38. Pulse feeble and compressible. 6 P. M., temperature $102\frac{3}{4}^{\circ}$, pulse 108, and respiration 40. Dulness in both lungs continued. 30 grains of quinia given at night.

28th. Temperature $100\frac{1}{2}^{\circ}$. Cough still troublesome, for which gr. $\frac{1}{6}$ morphia was given. Patient being weak, stimulants were ordered, but were of little avail. Bronchophony and bronchial breathing in lower lobe of right lung and upper lobe of left.

29th. Much worse. Pulse 120 and very feeble; respiration hurried, with occasional gasps. Friction sound developed in right pleura. Sputa thin and of a dirty-greenish colour. At noon patient very weak; pulse 130, and respiration interrupted. At 1 P. M. death took place.

The *post-mortem* corroborated the physical signs. Middle lobe of right lung in a state of gray hepatization, cut surface showing grayish-yellow colour, and slight pressure caused pus to escape.

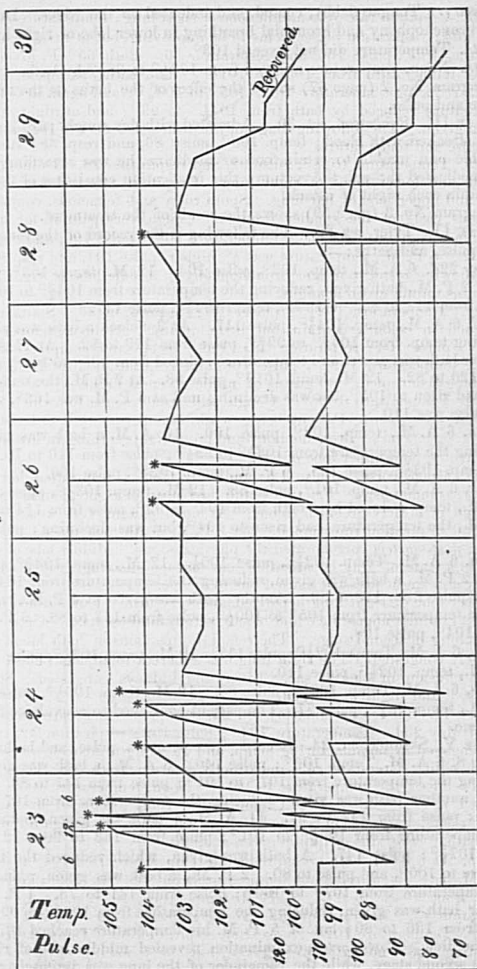
Lower lobe of right lung hepatized and very firm. Cut surface had a distinct granular appearance and bloody serous fluid escaped. Upper lobe of left lung in second stage. The remaining portions of both lungs were intensely congested. The right lung was adherent to adjacent chest wall. Slight effusion in pleural sac. Liver and kidneys congested. Spleen congested and slightly enlarged.

CASE II. Butterson (mulatto), æt. 25, strong, well-nourished man, admitted May 23d. Temperature 104° ; pulse 102; respiration 42. Had been engaged in manufacturing hemp, and on going to his cell was seized with a chill. Crepitant râle indistinctly heard. Bath (68° F.) given, which reduced the temperature to 101° . Noon, temperature 105° , bath reduced it to 100° . 5 P. M., temperature $105\frac{1}{2}^{\circ}$, reduced by bath to $101\frac{1}{2}^{\circ}$; temperature soon reached 105° again, when it was again reduced by a bath. 30 grains of quinia given at night.

24th. At 9 A. M. bath given, reducing temperature from 104° to 100° . 3 P. M. bath given, reducing temperature from 104° to 100° , and at 5 P. M. from $104\frac{1}{2}^{\circ}$ to 99° . 6 P. M. temperature 103° , pulse 100, and respiration 40. 30 grains quinia given at night.

25th. Temperature $102\frac{1}{2}^{\circ}$, pulse 104, respiration 39. Temperature not exceeding 103° , no baths were given, but the following day two were

Diagram No. 2.



The * indicates the time at which the bath was given.

necessary. Tongue flabby, coated, and indented on the edges. Dulness with bronchophony and bronchial breathing in lower lobe of right lung.

27th. Temperature did not exceed 103° .

28th. Noon, temperature reduced from $103\frac{1}{2}^{\circ}$ to $98\frac{1}{2}^{\circ}$ by bath.

Diagram No. 2 (page 57) shows the effect of the baths on the temperature and pulse.

CASE III. Robertson, æt. 30. Admitted with dry cough, pain in side, sputa streaked with blood; temp. 103° , pulse 86, and resp. 38; stomach irritable and unable to retain food or medicine, he was accordingly fed and medicated through the rectum; this medication consisting of 30 grs. of quinia each night of attack.

Diagram No. 3 (page 59) shows the result of the treatment.

CASE IV. Tyler, æt. 28. The following is the record of the temperature, pulse, and baths:—

May 22d. 6 A. M., temp. 103° , pulse 104. 12 M., temp. 103° , pulse 108. 2 P. M., bath given, reducing the temperature from $104\frac{3}{4}^{\circ}$ to $100\frac{1}{4}^{\circ}$, pulse from 114 to 83. 6 P. M., temp. $104\frac{1}{2}^{\circ}$, pulse 117.

23d, 6 A. M., temp. $104\frac{1}{2}^{\circ}$, pulse 117. At 9 o'clock a bath was given, reducing temp. from $104\frac{3}{4}^{\circ}$ to $99\frac{3}{4}^{\circ}$, pulse from 119 to 82. At 11 A. M. another bath was given, and temperature reduced from 105° to 100° ; pulse from 120 to 82. 12 M., temp. $101\frac{3}{4}^{\circ}$, pulse 98. At 2 P. M., the temperature had risen to 105° , but was declining, and at 6 P. M. was 103° , while the pulse was 110.

24th. 6 A. M., temp. 102° , pulse 100. 10 A. M. a bath was given, reducing the temperature from $103\frac{1}{2}^{\circ}$ to $98\frac{1}{2}^{\circ}$; pulse from 110 to 70. 12 M., temp. $103\frac{1}{2}^{\circ}$, pulse 108. 6 P. M., temp. $102\frac{1}{2}^{\circ}$, pulse 100.

25th, 6 A. M., temp. 101° , pulse 88. 12 M., temp. $103\frac{1}{2}^{\circ}$, pulse 112. 2 P. M., temp. reduced by a bath from 104° to 99° , pulse from 114 to 74. 6 P. M., the temperature had risen to 104° , but was declining; pulse to 112.

26th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$, pulse $100\frac{1}{2}$. 12 M., temp. $103\frac{3}{4}^{\circ}$, pulse 112. 2 P. M., a bath was given, reducing the temperature from 104° to 101° ; pulse from 113 to 93. Another bath was given at 4 P. M., reducing the temperature from 105° to $100\frac{1}{2}^{\circ}$, pulse from 114 to 88. 6 P. M., temp. 104° , pulse 108.

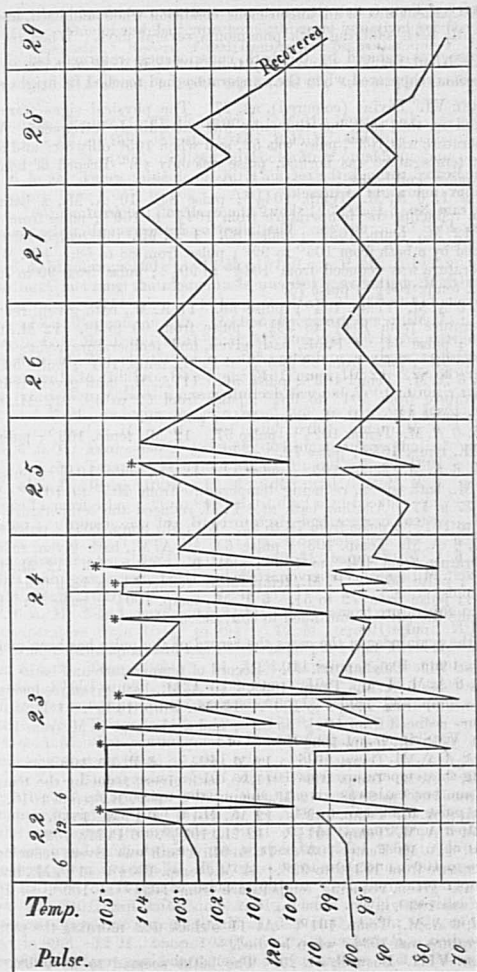
27th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$, pulse 112. 12 M., temp. $102\frac{1}{2}^{\circ}$, pulse 112. 6 P. M., temp. $102\frac{1}{2}^{\circ}$, pulse 110.

28th, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$, pulse 83. 12 M., temp. $100\frac{1}{2}^{\circ}$, pulse 82. 6 P. M., temp. $99\frac{3}{4}^{\circ}$, pulse 77. The patient continued to convalesce from this time.

CASE V. Skinner, æt. 24. Record of temperature, pulse, and baths:—

July 8, 6 A. M. Temp. 106° ; pulse 140. 8 A. M., a bath was given, reducing the temperature from 107° to 101° ; pulse from 147 to 88. 10 A. M., another bath was given, reducing the temperature from 107° to $101\frac{1}{2}^{\circ}$; pulse from 147 to 94. 11 A. M., a bath was given, reducing the temperature from $106\frac{1}{2}^{\circ}$ to 101° ; pulse from 143 to 90. 12 M., temp. $107\frac{1}{2}^{\circ}$; pulse 147. A bath was given, which reduced the temperature to 100° , and pulse to 80. 2 P. M., a bath was given, reducing the temperature from 107° to 100° ; pulse from 141 to 78. 4 P. M., another bath was given, reducing the temperature from $106\frac{3}{4}^{\circ}$ to $99\frac{3}{4}^{\circ}$; pulse from 136 to 80; but at 5 P. M. his temperature reached $107\frac{1}{2}^{\circ}$, when he died. *Post-mortem* examination revealed middle lobe of right lung in second stage, while the remainder of the lung was intensely congested.

Diagram No. 3.



The * indicates the time at which the bath was given.

This patient was in an unconscious condition when admitted, and had evidently been suffering with pneumonia several days. When the temperature was reduced by the bath, consciousness returned, but the bad symptoms reappeared when the temperature had reached its height again.

CASE VI. Divine (coloured), æt. 27. The physical signs were well marked in this case, but the pulse was exceedingly infrequent. When temperature was 103° , pulse was 52, and when 105° only 80; and again, when temperature was normal, pulse was only 48. Record of temperature, pulse, and baths:—

June 1, 6 A. M. Temp. $104\frac{1}{2}^{\circ}$; pulse 84. 10 A. M., a bath was given, reducing the temperature from $104\frac{3}{4}^{\circ}$ to 100° ; pulse from 85 to 70. 12 M., temp. $103\frac{3}{4}^{\circ}$; pulse 85. 1 P. M., the temperature was reduced by a bath from 105° to 99° ; pulse from 88 to 68. 4 P. M., the temperature was reduced from $104\frac{1}{2}^{\circ}$ to $99\frac{1}{2}^{\circ}$; pulse from 90 to 72. 6 P. M., temp. $104\frac{1}{2}^{\circ}$; pulse 75.

2d, 6 A. M. Temp. 104° ; pulse 56. 11 A. M., bath given, reducing temperature from $104\frac{1}{2}^{\circ}$ to $98\frac{1}{2}^{\circ}$; pulse from 60 to 48. 12 M., temp. $100\frac{1}{2}^{\circ}$; pulse 64. 4 P. M., bath given, and temperature reduced from 104° to 99° ; pulse from 68 to 50. 6 P. M., temp. 104° ; pulse 58.

3d, 6 A. M. Temp. 103° ; pulse 56. 11 A. M., bath given, reducing temperature from 104° to $98\frac{1}{2}^{\circ}$; pulse from 62 to 48. 12 M., temp. 100° ; pulse 53. 6 P. M., temp. 104° ; pulse 58.

4th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$; pulse 57. 12 M., temp. 103° ; pulse 67. 6 P. M., temp. 103° ; pulse 72.

5th, 6 A. M. Temp. 103° ; pulse 72. 12 M., temp. $104\frac{3}{4}^{\circ}$; pulse 76. 2 P. M., bath given, reducing temperature from 105° to $101\frac{1}{2}^{\circ}$; pulse from 77 to 57. Another bath at 4 P. M. reduced the temperature from 105° to $101\frac{1}{4}^{\circ}$; pulse from 76 to 55. 6 P. M., temp. 104° ; pulse 68.

6th, 6 A. M. Temp. 103° ; pulse 64. 9 A. M., bath given, reducing temperature from 104° to 100° ; pulse from 68 to 53. 12 M., temp. $102\frac{1}{2}^{\circ}$; pulse 66. 2 P. M., temperature reduced by a bath from $104\frac{1}{2}^{\circ}$ to 99° ; pulse from 72 to 51. 6 P. M., temp. $100\frac{1}{2}^{\circ}$; pulse 60. From this time the patient continued to convalesce.

In the remainder of the cases the record of the pulse has been omitted.

CASE VII. Calahan, æt. 45. Record of temperature and baths:—

April 16, 6 A. M. Temp. 105° . 10 A. M., bath given, reducing the temperature from $105\frac{1}{4}^{\circ}$ to 100° . 12 M., temp. $103\frac{1}{2}^{\circ}$. 1 P. M., temperature reduced from $104\frac{1}{2}^{\circ}$ to 99° ; and again at 4 P. M. from 104° to $99\frac{1}{2}^{\circ}$. 6 P. M., temp. $103\frac{1}{2}^{\circ}$.

17th, 6 A. M. Temp. $99\frac{1}{2}^{\circ}$. 12 M., $99\frac{1}{2}^{\circ}$. 6 P. M., 100° .

18th, 6 A. M. Temp. 102° . 11.30, bath given, reducing the temperature from 104° to $98\frac{3}{4}^{\circ}$. 12 M., temp. 99° . 6 P. M., temp. 101° .

19th, 6 A. M. Temp. 102° . 12 M., 101° . 6 P. M., 101° .

20th, 6 A. M. Temp. $101\frac{1}{2}^{\circ}$. 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., 102° .

21st, 6 A. M. Temp. 103° . 11 A. M., a bath was given, reducing the temperature from $103\frac{1}{2}^{\circ}$ to 99° . 12 M., temp. $100\frac{1}{2}^{\circ}$. 4 P. M., another bath was given, reducing temperature from $103\frac{1}{2}^{\circ}$ to 100° . 6 P. M., temp. was 103° .

22d, 6 A. M. Temp. 101° . At 11 o'clock that morning the patient's temperature was $103\frac{1}{2}^{\circ}$ when he died.

CASE VIII. Boswell, æt. 23. The baths seemed to have but little

effect on the temperature at first, requiring fifteen minutes to reduce it one degree. The second bath was but little more effective, but the third was very successful. Record of temperature and baths:—

April 27, 6 A. M. Temp. 103° . 12 M., $103\frac{1}{2}^{\circ}$. 6 P. M., 104° .

28th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., 104° , but on the decline. 6 P. M., 103° .

29th, 6 A. M. 102° . 12 M., 103° . 6 P. M., 103° .

30th, 6 A. M. $101\frac{1}{2}^{\circ}$. 12 M., 103° . 6 P. M., 102° .

May 1, 6 A. M. 100° . 12 M., 101° . 6 P. M., 103° .

2d, 6 A. M. Temp. $104\frac{1}{2}^{\circ}$. 9 A. M., a bath was given, reducing the temperature from 105° to 104° . At 11.30 another was given, reducing it from 105° to $102\frac{1}{2}^{\circ}$. 12 M., temp. $103\frac{1}{4}^{\circ}$. 3 P. M., bath was again given, reducing the temperature from $105\frac{1}{2}^{\circ}$ to 100° . 6 P. M., temp. was $100\frac{1}{2}^{\circ}$.

3d, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., $101\frac{1}{2}^{\circ}$.

The next morning the temperature was $98\frac{1}{2}^{\circ}$, and the patient entered upon convalescence.

CASE IX. Bennell, æt. 35. Record of temperature and baths:—

May 4, 6 A. M. Temp. $103\frac{1}{2}^{\circ}$; 12 M. 104° , and 6 P. M. 104° .

5th, 6 A. M. Temp. 104° . 9 A. M., a bath was given, reducing the temperature from 105° to 100° . 12 M. Temp. 103° . 2 P. M., a bath was given, which reduced the temperature from $104\frac{1}{2}^{\circ}$ to 100° ; and another at 4 P. M., reducing it again from 105° to 100° . 6 P. M. temp. $103\frac{1}{2}^{\circ}$.

6th, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., $102\frac{1}{2}^{\circ}$, and 6 P. M., 103° .

7th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., 102° , and 6 P. M. $102\frac{1}{2}^{\circ}$.

8th, 6 A. M. Temp. 100° . 12 M., 100° , and 6 P. M. 99° . Convalescence then began.

CASE X. Cooke, æt. 28. Record of temperature and baths:—

April 2, 6 A. M. Temp. 104° . 11 A. M., a bath was given, reducing the temperature from 105° to 100° . 12 M., temp. $102\frac{1}{2}^{\circ}$. 2 P. M., another bath was given, reducing the temperature from $104\frac{1}{2}^{\circ}$ to $98\frac{1}{2}^{\circ}$. 6 P. M., temp. 102° .

3d, 6 A. M. Temp. 102° . 11 A. M., a bath was given, which reduced the temperature from $104\frac{1}{2}^{\circ}$ to $99\frac{1}{2}^{\circ}$. 12 M., temp. $101\frac{3}{4}^{\circ}$. 3 P. M., temp. was reduced by a bath from 104° to $99\frac{1}{4}^{\circ}$. 6 P. M., temp. 103° .

4th, 6 A. M. Temp. $103\frac{1}{2}^{\circ}$. 11 A. M., bath given, reducing temperature from $104\frac{1}{2}^{\circ}$ to 99° . 12 M., temp. 102° . 2 P. M., another bath given, reducing temperature from 104° to $99\frac{1}{2}^{\circ}$. 6 P. M., temp. 104° .

5th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., 103° , and 6 P. M., 103° .

6th, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., 100° , and 6 P. M., $99\frac{1}{2}^{\circ}$, when convalescence commenced.

CASE XI. Richardson, æt. 30. Record of temperature and baths:—

April 4, 6 A. M. Temp. 103° . 9 A. M., a bath was given, reducing the temperature from 105° to 101° . 11 A. M., another was given, reducing the temperature from 106° to 99° . 12 M., temp. 102° . 2 P. M., a bath was given, which reduced the temperature from 105° to 99° . Another was given at 4 P. M., this time reducing the temperature from $104\frac{1}{2}^{\circ}$ to 100° . 6 P. M., temp. was 104° .

5th, 6 A. M. Temp. $104\frac{1}{2}^{\circ}$. 9 A. M., a bath was given, reducing the temperature from 105° to 100° , and another at 11 A. M., reduced it from $104\frac{1}{2}^{\circ}$ to 99° . 12 M., temp. $103\frac{1}{4}^{\circ}$. 1 P. M., a bath was given, which reduced the temperature from 105° to 100° ; another at 3 P. M. reduced

it from $104\frac{1}{2}^{\circ}$ to $100\frac{1}{2}^{\circ}$; and another at 5 P. M., from $104\frac{1}{2}^{\circ}$ to 100° . 6 P. M., temp. $103\frac{1}{2}^{\circ}$.

6th, 6 A. M. Temp. 101° . 12 M., 101° , and 6 P. M., 103° .

7th, 6 A. M. Temp. 101° . 12 M., $100\frac{1}{2}^{\circ}$, and 6 P. M., 100° . From this time patient continued to convalesce.

When the second bath was given, the temperature being 106° , there was noticed a rise of 4° in the temperature of the water.

CASE XII. Ross, æt. 31. Record of temperature and baths:—

April 12th, 6 A. M. Temp. 103° . 12 M., $103\frac{1}{2}^{\circ}$. 2 P. M., a bath was given, reducing the temp. from 105° to 100° ; and another at 5 P. M., which reduced it again from 105° to 100° . 6 P. M., temp. $103\frac{1}{2}^{\circ}$.

13th, 6 A. M. Temp. 103° . 9 A. M., a bath was given, reducing the temp. from 105° to $99\frac{1}{2}^{\circ}$; and another at 11 A. M., reducing it from 105° to 100° . 12 M., temp. $102\frac{1}{2}^{\circ}$. 2 P. M., a bath reduced the temp. from 105° to $100\frac{1}{2}^{\circ}$; and another at 5 P. M., from 105° to 100° . 6 P. M., temp. $103\frac{1}{2}^{\circ}$.

14th, 6 A. M. Temp. 103° . 12 M., 103° . 6 P. M., $103\frac{1}{2}^{\circ}$.

15th, 6 A. M. Temp. $103\frac{1}{2}^{\circ}$. 11 A. M., a bath was given, reducing the temperature from $104\frac{1}{4}^{\circ}$ to 100° . 12 M., temp. $100\frac{3}{4}^{\circ}$. 6 P. M., $103\frac{1}{2}^{\circ}$.

16th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 11.30 A. M., a bath was given, reducing the temp. from $104\frac{1}{2}^{\circ}$ to $99\frac{1}{2}^{\circ}$. 12 M., $99\frac{3}{4}^{\circ}$. 6 P. M., $100\frac{1}{2}^{\circ}$.

17th, 6 A. M. Temp. 102° . 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., $101\frac{1}{2}^{\circ}$.

18th, 6 A. M. Temp. 102° . 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., $101\frac{1}{2}^{\circ}$.

The next morning the temperature was $100\frac{1}{2}^{\circ}$, and convalescence began, but was very tedious, this being his second attack in the month of April.

CASE XIII. McCloskey, æt. 43. Record of temperature and baths:—

June 1st, 6 A. M. Temp. 103° . 12 M., 103° . 6 P. M., $103\frac{1}{2}^{\circ}$.

2d, 6 A. M. Temp. 104° . 9 A. M., a bath was given, reducing the temp. from $104\frac{1}{2}^{\circ}$ to 99° . 12 M., temp. $102\frac{1}{2}^{\circ}$. 2 P. M., another bath was given, which reduced the temp. from 105° to 100° . 6 P. M., temp. $103\frac{1}{2}^{\circ}$.

3d, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 11 A. M., a bath was given, reducing the temp. from 104° to $99\frac{1}{2}^{\circ}$. 12 M., temp. 102° . 2 P. M., another bath was given, reducing the temp. from $104\frac{1}{2}^{\circ}$ to 100° . 6 P. M., temp. $103\frac{1}{2}^{\circ}$.

4th, 6 A. M. Temp. 101° . 12 M., 102° . 6 P. M., 102° .

5th, 6 A. M. Temp. 100° . 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., 102° .

6th, 6 A. M. Temp. 100° . 12 M., 100° . 6 P. M., $99\frac{1}{2}^{\circ}$; when convalescence was established.

CASE XIV. Gordin, æt. 22. Record of temperature and baths:—

June 27th, 6 A. M. Temp. 103° . 10 A. M., a bath was given, reducing the temp. from $103\frac{3}{4}^{\circ}$ to $99\frac{1}{2}^{\circ}$. 12 M., temp. $101\frac{3}{4}^{\circ}$. 6 P. M., 103° .

28th, 6 A. M. Temp. $101\frac{1}{2}^{\circ}$. 12 M., $100\frac{1}{2}^{\circ}$. 6 P. M., 100° .

29th, 6 A. M. Temp. 102° . 11 A. M., a bath was given, reducing the temp. from 104° to 99° . 12 M., temp. $100\frac{1}{2}^{\circ}$. 6 P. M., 103° .

30th, 6 A. M. Temp. 100° . 12 M., 100° . 6 P. M., 100° .

July 1st, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., 101° . 6 P. M., 101° .

2d, 6 A. M. Temp. 100° . 12 M., $100\frac{1}{2}^{\circ}$. 6 P. M., $100\frac{1}{2}^{\circ}$.

3d, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., 100° . 6 P. M., $100\frac{1}{2}^{\circ}$.

4th, 6 A. M. Temp. 100° . 12 M., $99\frac{1}{2}^{\circ}$. 6 P. M., $99\frac{1}{2}^{\circ}$. Patient then began to convalesce.

CASE XV. Beasley, æt. 38. Record of temperature and baths:—

July 6th, 6 A. M. Temp. 104° . 9 A. M., a bath was given, reducing

the temp. from $104\frac{1}{4}^{\circ}$ to 101° . 12 M., temp. $104\frac{1}{4}^{\circ}$. 2 P.M., another bath was given, which reduced the temp. from 105° to $100\frac{1}{2}^{\circ}$. 6 P.M., temp. was $103\frac{1}{2}^{\circ}$.

7th, 6 A.M. Temp. $104\frac{1}{2}^{\circ}$. 10 A.M., a bath was given, reducing the temp. from 105° to 101° . 12 M., temp. $103\frac{1}{4}^{\circ}$. 2 P.M., another bath was given, which reduced the temp. from $104\frac{1}{2}^{\circ}$ to $99\frac{1}{2}^{\circ}$. 6 P.M., temp. 104° .

8th, 6 A.M. Temp. 104° . 9 A.M., a bath was given, reducing the temp. from 104° to 100° . 12 M., temp. $102\frac{1}{2}^{\circ}$. 4 P.M., another bath was given, which reduced the temp. from $104\frac{1}{2}^{\circ}$ to 99° . 6 P.M., temp. $103\frac{1}{2}^{\circ}$.

9th, 6 A.M. Temp. $103\frac{1}{2}^{\circ}$. 12 M., 103° . 6 P.M., $102\frac{1}{2}^{\circ}$.

10th, 6 A.M. Temp. 102° . 12 M., 101° . 6 P.M., $102\frac{1}{2}^{\circ}$.

11th, 6 A.M. Temp. $101\frac{1}{2}^{\circ}$. 12 M., 102° . 6 P.M., $100\frac{1}{2}^{\circ}$. The next morning the temp. was 100° , and the patient began to convalesce.

CASE XVI. John Catt, æt. 40. Record of temperature and baths:—

March 20, 6 A.M. Temp. 104° . 10 A.M., a bath was given, reducing the temperature from $104\frac{1}{4}^{\circ}$ to $98\frac{1}{2}^{\circ}$. 12 M., temp. 101° . 3 P.M., another bath was given, reducing the temperature from $103\frac{3}{4}^{\circ}$ to 98° . 6 P.M., temp. $101\frac{1}{2}^{\circ}$.

21st, 6 A.M. Temp. 102° . 12 M., 102° . 6 P.M., 101° .

22d, 6 A.M. Temp. 102° . 12 M., 103° . 6 P.M., $101\frac{1}{2}^{\circ}$.

23d, 6 A.M. Temp. 103° . 12 M., 103° . 6 P.M., $101\frac{1}{2}^{\circ}$.

24th, 6 A.M. Temp. 103° . 12 M., 102° . 6 P.M., 102° .

25th, 6 A.M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., 103° . 6 P.M., 103° .

26th, 6 A.M. Temp. 101° . 12 M., $99\frac{1}{2}^{\circ}$. 6 P.M., 100° . The patient's temperature was $98\frac{1}{2}^{\circ}$ the next morning, and convalescence began.

CASE XVII. Hecks, æt. 34. Record of temperature and baths:—

May 6, 6 A.M. Temp. 104° . 10 A.M., a bath was given, reducing the temperature from 105° to 100° . 12 M., temp. 104° . 1 P.M., another bath was given, reducing the temperature from 105° to $100\frac{1}{2}^{\circ}$; and again at 4 P.M., reducing the temperature from 105° to 100° . 6 P.M., temperature was 105° .

7th, 6 A.M. Temp. 103° . 10 A.M., a bath was given, reducing the temperature from 105° to 100° . 12 M., temp. $103\frac{3}{4}^{\circ}$. Two baths were given this afternoon, reducing the temperature each time from 105° to 100° . 6 P.M., temperature was 105° .

8th, 6 A.M. Temp. 104° . 9 A.M., a bath was given, reducing the temperature from 104° to 100° ; and again at 11 A.M., reducing it from 105° to $99\frac{1}{2}^{\circ}$. 12 M., temperature was $100\frac{1}{2}^{\circ}$. 2 P.M., another bath was given, reducing the temperature from $104\frac{1}{2}^{\circ}$ to 99° ; and at 5 P.M. another, reducing it from 105° to 100° . 6 P.M., temperature was 105° .

9th, 6 A.M. Temp. $102\frac{1}{2}^{\circ}$. 9 A.M., bath given, reducing temperature from 104° to $99\frac{1}{2}^{\circ}$. 12 M., temp. $103\frac{1}{4}^{\circ}$. 2 P.M., bath given, reducing temperature from 105° to 100° ; and another at 5 P.M., reducing it from $104\frac{1}{2}^{\circ}$ to 99° . 6 P.M., temperature was 104° .

10th, 6 A.M. Temp. 104° . 12 M., $102\frac{1}{2}^{\circ}$. 1 P.M., bath given, reducing temperature from $103\frac{1}{2}^{\circ}$ to $98\frac{1}{2}^{\circ}$. 6 P.M., 104° .

11th, 6 A.M. Temp. $103\frac{1}{2}^{\circ}$. 12 M., 103° . 6 P.M., 103° .

12th, 6 A.M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., 101° . 6 P.M., 101° .

13th, 6 A.M. Temp. $99\frac{1}{2}^{\circ}$. 12 M., $100\frac{1}{2}^{\circ}$. 6 P.M., $100\frac{1}{2}^{\circ}$.

14th, 6 A.M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., $100\frac{1}{2}^{\circ}$. 6 P.M., 99° , when convalescence began.

It was very difficult to keep the temperature down in this case, as it would begin to rise as soon as the patient was taken from the bath. He experienced great relief from the use of the bath.

CASE XVIII. Roach, æt. 25. Record of temperature and baths:—

May 6, 6 A. M. Temp. 104° . 9 P. M., bath given, reducing the temperature from $104\frac{1}{2}^{\circ}$ to 100° . 12 M., temp. $103\frac{3}{4}^{\circ}$. 2 P. M., another bath given, reducing the temperature from 105° to 100° . 6 P. M., temperature was 105° .

7th, 6 A. M. Temp. 103° . 9 A. M., bath given, reducing temperature from 105° to 100° ; and again at 11 A. M., reducing it from 105° to 101° . 12 M., temp. 103° . 2 P. M., bath given, reducing temperature from 105° to $99\frac{1}{2}^{\circ}$; and at 5 P. M. another, reducing it from 105° to 99° . 6 P. M., temp. 105° .

8th, 6 A. M. Temp. 104° . 11 A. M., bath given, reducing temperature from $103\frac{3}{4}^{\circ}$ to $98\frac{1}{2}^{\circ}$. 12 M., temp. $100\frac{1}{4}^{\circ}$. 3 P. M., bath given, reducing temperature from $103\frac{1}{2}^{\circ}$ to $98\frac{1}{2}^{\circ}$. 6 P. M., temp. 103° .

9th, 6 A. M. Temp. 104° . 11 A. M., bath given, reducing temperature from $103\frac{3}{4}^{\circ}$ to 99° . 12 M., temp. $101\frac{3}{4}^{\circ}$. 2 P. M., another bath given, reducing the temperature from $103\frac{1}{2}^{\circ}$ to $98\frac{1}{2}^{\circ}$. 6 P. M., temp. 103° .

10th, 6 A. M. Temp. 103° . 9 A. M., bath given, reducing the temperature from $103\frac{1}{4}^{\circ}$ to $98\frac{1}{2}^{\circ}$. 12 M., $102\frac{1}{2}^{\circ}$. 6 P. M., 102° .

11th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., 102° . 6 P. M., $102\frac{1}{2}^{\circ}$.

12th, 6 A. M. Temp. $103\frac{1}{2}^{\circ}$. 12 M., 103° . 6 P. M., 103° .

13th, 6 A. M. Temp. $103\frac{1}{2}^{\circ}$. 12 M., $103\frac{1}{2}^{\circ}$. 6 P. M., 103° .

14th, 6 A. M. Temp. 103° . 12 M., $102\frac{1}{2}^{\circ}$. 6 P. M., 103° .

15th, 6 A. M. Temp. 102° . 12 M., 102° . 6 P. M., $102\frac{1}{2}^{\circ}$.

16th, 6 A. M. Temp. 101° . 12 M., 100° . 6 P. M., convalescence had begun.

The following cases were treated with quinia and salicylic acid without the baths, the quinia being given in 30 grain doses morning and evening when this would suffice to keep the temperature down, but was sometimes given in larger doses. The salicylic acid proved a failure as an antipyretic, and was only occasionally and irregularly used.

The diet, as in the treatment of the preceding cases, consisted of beef-tea, bread and butter, milk and eggs.

CASE XIX. McCutcheon, æt. 29. Record of temperature:—

March 20, 6 A. M. Temp. 104° . 12 M., $104\frac{1}{2}^{\circ}$. 6 P. M., $102\frac{1}{2}^{\circ}$.

21st, 6 A. M. Temp. 101° . 12 M., 102° . 6 P. M., 102° .

22d, 6 A. M. Temp. 100° . 12 M., 102° . 6 P. M., 100° .

23d, 6 A. M. Temp. 100° . 12 M., 100° . 6 P. M., 101° .

24th, 6 A. M. Temp. 99° . 12 M., $99\frac{1}{2}^{\circ}$. 6 P. M., $100\frac{1}{2}^{\circ}$.

25th, 6 A. M. Temp. 100° . 12 M., 100° . 6 P. M., $101\frac{1}{2}^{\circ}$.

26th, 6 A. M. Temp. 100° . 12 M., 100° . 6 P. M., 101° . On the following morning the temperature was 99° , and convalescence had begun.

CASE XX. Coleman, æt. 45. Record of temperature:—

June 1, 6 A. M. Temp. $105\frac{1}{2}^{\circ}$. 12 M., $105\frac{3}{4}^{\circ}$. 6 P. M., $104\frac{1}{2}^{\circ}$.

2d, 6 A. M. Temp. $104\frac{1}{2}^{\circ}$. 12 M., 105° . 6 P. M., $104\frac{1}{2}^{\circ}$.

3d, 6 A. M. Temp. $103\frac{1}{2}^{\circ}$. 12 M., 105° . 2 P. M., temperature was $105\frac{1}{2}^{\circ}$, when the patient died.

He was delirious when admitted, and remained so throughout the

attack. The dose of quinia was increased, but failed to accomplish the reduction of the temperature. He could not swallow, and it was necessary to introduce the quinia into the rectum.

CASE XXI. Decker, æt. 27. Record of temperature:—

June 16, 6 A. M. Temp. 104° . 12 M., $104\frac{1}{2}^{\circ}$. 6 P. M., 105° .
 17th, 6 A. M. Temp. 106° . 12 M., 104° . 6 P. M., 105° .
 18th, 6 A. M. Temp. 103° . 12 M., $102\frac{1}{2}^{\circ}$. 6 P. M., 103° .
 19th, 6 A. M. Temp. 101° . 12 M., $102\frac{1}{2}^{\circ}$. 6 P. M., $104\frac{1}{2}^{\circ}$.
 20th, 6 A. M. Temp. 100° . 12 M., 99° . 6 P. M., $99\frac{1}{2}^{\circ}$.
 21st, 6 A. M. Temp. 100° . 12 M., 101° . 6 P. M., 101° . The next morning the temperature was 100° , when convalescence began.

CASE XXII. Dykes, æt. 30. Record of temperature:—

June 22, 6 A. M. Temp. 104° . 12 M., $104\frac{1}{2}^{\circ}$. 6 P. M., 105° .
 23d, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., $103\frac{1}{2}^{\circ}$. 6 P. M., $103\frac{1}{2}^{\circ}$.
 24th, 6 A. M. Temp. 101° . 12 M., $102\frac{3}{4}^{\circ}$. 6 P. M., 104° .
 25th, 6 A. M. Temp. 100° . 12 M., 100° . 6 P. M., $100\frac{1}{2}^{\circ}$.
 26th, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., $101\frac{1}{2}^{\circ}$.
 27th, 6 A. M. Temp. 100° . 12 M., 103° . 6 P. M., 102° .
 28th, 6 A. M. Temp. 100° . 12 M., $100\frac{1}{2}^{\circ}$. 6 P. M., $100\frac{1}{2}^{\circ}$. The following morning the temperature was $98\frac{1}{2}^{\circ}$, and convalescence going on.

CASE XXIII. Boyd, æt. 40. Record of temperature:—

July 1, 6 A. M. Temp. $103\frac{1}{2}^{\circ}$. 12 M., 104° . 6 P. M., 104° .
 2d, 6 A. M. Temp. 101° . 12 M., 100° . 6 P. M., $100\frac{1}{2}^{\circ}$.
 3d, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., $102\frac{1}{2}^{\circ}$.
 4th, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., 100° . 6 P. M., 100° .
 5th, 6 A. M. Temp. 100° . 12 M., $99\frac{1}{2}^{\circ}$. 6 P. M., $99\frac{1}{2}^{\circ}$.
 6th, 6 A. M. Temp. 100° . 12 M., $100\frac{1}{2}^{\circ}$. 6 P. M., $99\frac{1}{2}^{\circ}$, at which time convalescence began.

CASE XXIV. Hurst, æt. 27. Record of temperature:—

July 8, 6 A. M. Temp. 104° . 12 M., $104\frac{1}{2}^{\circ}$. 6 P. M., $104\frac{1}{2}^{\circ}$.
 9th, 6 A. M. Temp. 103° . 12 M., 104° . 6 P. M., 104° .
 10th, 6 A. M. Temp. $98\frac{1}{2}^{\circ}$. 12 M., 99° . 6 P. M., 99° .
 11th, 6 A. M. Temp. 101° . 12 M., $100\frac{1}{2}^{\circ}$. 6 P. M., $100\frac{1}{2}^{\circ}$.
 12th, 6 A. M. Temp. 100° . 12 M., 101° . 6 P. M., $100\frac{1}{2}^{\circ}$.
 13th, 6 A. M. Temp. $99\frac{1}{2}^{\circ}$. 12 M., 100° . 6 P. M., $99\frac{1}{2}^{\circ}$.
 14th, 6 A. M. Temp. 100° . 12 M., $99\frac{1}{2}^{\circ}$. 6 P. M., $98\frac{1}{2}^{\circ}$, when convalescence was established. It will be seen that the temperature on the night of the 9th declined from 104° to $98\frac{1}{2}^{\circ}$. This was the result of the administration of 60 grains of quinia at a dose.

CASE XXV. Johnson, æt. 39. Record of temperature:—

July 9, 6 A. M. Temp. 104° . 12 M., $104\frac{1}{2}^{\circ}$. 6 P. M., 105° .
 10th, 6 A. M. Temp. 101° . 12 M., 100° . 6 P. M., 102° .
 11th, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., 100° . 6 P. M., 100° .
 12th, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., 103° . 6 P. M., 102° .
 13th, 6 A. M. Temp. 101° . 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., $101\frac{1}{2}^{\circ}$.
 14th, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., 101° . 6 P. M., 100° .
 15th, 6 A. M. Temp. $99\frac{1}{2}^{\circ}$. 12 M., $99\frac{1}{2}^{\circ}$. 6 P. M., 100° . Temperature was down to 99° the following morning, and convalescence began.

CASE XXVI. Carniel, æt. 33. Record of temperature:—

August 16, 6 A. M. Temp. 104° . 12 M., $104\frac{1}{2}^{\circ}$. 6 P. M., 105° .
 17th, 6 A. M. Temp. 102° . 12 M., $102\frac{1}{2}^{\circ}$. 6 P. M., 102° .
 18th, 6 A. M. Temp. 103° . 12 M., $104\frac{1}{2}^{\circ}$. 6 P. M., 105° .

19th, 6 A. M. Temp. 104° . 12 M., $100\frac{1}{2}^{\circ}$. 6 P. M., $101\frac{1}{2}^{\circ}$.

20th, 6 A. M. Temp. 101° . 12 M., 102° . 6 P. M., 102° .

21st, 6 A. M. Temp. $101\frac{1}{2}^{\circ}$. 12 M., $101\frac{1}{2}^{\circ}$. 6 P. M., $102\frac{1}{2}^{\circ}$.

22d, 6 A. M. Temp. $100\frac{1}{2}^{\circ}$. 12 M., 101° . 6 P. M., $99\frac{1}{2}^{\circ}$. Convalescence began the next morning, with temperature $98\frac{1}{2}^{\circ}$.

CASE XXVII. Williams, æt. 32. Record of temperature:—

August 10, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., 102° . 6 P. M., 104° .

11th, 6 A. M. Temp. $102\frac{1}{2}^{\circ}$. 12 M., 103° . 6 P. M., $102\frac{1}{2}^{\circ}$.

12th, 6 A. M. Temp. $103\frac{1}{2}^{\circ}$. 12 M., $105\frac{1}{2}^{\circ}$. 6 P. M., $105\frac{1}{2}^{\circ}$.

13th, 6 A. M. Temp. $99\frac{1}{2}^{\circ}$. 12 M., 102° . 6 P. M., 105° .

14th, 6 A. M. Temp. $101\frac{1}{2}^{\circ}$. 12 M., 102° . 6 P. M., $102\frac{1}{2}^{\circ}$.

15th, 6 A. M. Temp. 102° . 12 M., 103° . 6 P. M., 102° .

16th, 6 A. M. Temp. $99\frac{1}{2}^{\circ}$. 12 M., 100° . 6 P. M., 100° .

17th, 6 A. M. Temp. $99\frac{1}{2}^{\circ}$, convalescence began.

CASE XXVIII. Daniells, æt. 45. Record of temperature:—

August 15, 6 A. M. Temp. 105° . 12 M., 104° . 6 P. M., 105° .

16th, 6 A. M. Temp. 103° . 12 M., $103\frac{1}{2}^{\circ}$. 6 P. M., 104° .

17th, 6 A. M. Temp. 103° . 12 M., 104° . 6 P. M., $104\frac{1}{2}^{\circ}$.

18th, 6 A. M. Temp. 104° . 12 M., $104\frac{1}{2}^{\circ}$. 6 P. M., 105° . Patient died at 7 A. M. the following morning, temperature being 105° .

It will be seen that, of the 18 cases treated with the cold bath, only 3, or a little less than 17 per cent., died. Of these three cases, one was double pneumonia, another pneumonia of the apex with delirium, while the third was marked by high temperature.

Of the 10 cases treated with quinia, 2 died, giving the average hospital mortality. One of these was an old man, and the other had pneumonia of the apex. When it is remembered that these men live in a vitiated air, and have their spirits depressed by confinement in the penitentiary, the results of these modes of treatment must be regarded as quite favourable; but the sudden change of temperature from high to low degree, by the application of cold water, is certainly very inconvenient for the patient; and if he is suffering from exhaustion, as he is apt to be in the latter part of the attack, it may jeopardize his life to move him from his bed. It is evident that, if you apply cold to the body, it will reduce the temperature; but is not reaction equal to action? Will not the high temperature return when the agent that reduced it is removed?

The more rational treatment, it seems to me, would be to apply the cold in such a manner that reaction shall not occur at all.

ARTICLE III.

A CONTRIBUTION TO THE STUDY OF INHERITED SYPHILIS OF THE EYE.
By CHARLES S. BULL, M.D., Surgeon to the New York Eye Infirmary and to Charity Hospital.

UNDER the head of "Inherited Syphilis," we include both intra-uterine manifestations of the disease, that is, true *congenital* syphilis, and also